

STABILIZATION OF TIME-VARYING PARABOLIC EQUATIONS BY A SINGLE MOVING ACTUATOR

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ABSTRACT

In this talk, we deal with the stabilization of a general class of time-varying parabolic equations by a moving control. This internal control is based on a moving indicator function (actuator). First, we discuss some results on the stabilizability of the underlying system by such control. We then formulate the stabilization problem as an infinite-horizon optimal control with state and control constraints. In this formulation, the movement of the indicator function is described by a second-order ODE. Finally, we present numerical experiments on the performance of a receding horizon framework used to treat the infinite-horizon problem.

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